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In The
Supreme Court of the United States

JEREMIAH W. (JAY) NIXON,
Attorney General of Missouri,

Petitioner,

v.

MISSOURI MUNICIPAL LEAGUE, et al.,

Respondents.

FEDERAL COMMUNICATIONS COMMISSION
and UNITED STATES,

Petitioners,

v.

MISSOURI MUNICIPAL LEAGUE, et al.,

Respondents.

SOUTHWESTERN BELL TELEPHONE, L.P.,
fka Southwestern Bell Telephone Company,

Petitioner,

v.

MISSOURI MUNICIPAL LEAGUE, et al.,

Respondents.

On Writ Of Certiorari To The United States Court Of Appeals For The Eighth Circuit

BRIEF AMICUS CURIAE OF EDUCAUSE IN SUPPORT OF RESPONDENTS

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EDUCAUSE BRIEF *AMICUS CURIAE* IN SUPPORT OF RESPONDENTS[1]

EDUCAUSE, an international association representing the information technology interests of nearly 1,900 colleges, universities and education organizations, respectfully submits this Brief *Amicus Curiae* in support of Respondents. EDUCAUSE urges affirmation of the Eighth Circuit's decision.

INTEREST OF EDUCAUSE AS *AMICUS CURIAE*

The mission of EDUCAUSE is to advance higher education by promoting the intelligent use of information technology. EDUCAUSE is an international nonprofit association, with membership open to colleges and universities, corporations serving the higher education information technology market, and other related associations and organizations. Current membership includes nearly 1,900 colleges, universities, and education organizations, and more than 180 corporations.

The Internet was largely developed by higher education researchers, for higher education researchers. To this day, the higher education community has retained its role as a proving ground for the deployment of leading-edge, high-bandwidth networks, enabling both academic research and

[1] The parties have consented to the filing of this brief.

Counsel for a party did not author this brief in whole or in part. No person or entity, other than the *Amicus Curiae*, its members, or its counsel made a monetary contribution to the preparation and submission of this brief.

e-learning. Campus administrators must wrestle with the voracious, ever-increasing demand for bandwidth of today's student and faculty population (both on- and off-campus).

EDUCAUSE's interest in the current proceeding lies in the fact that colleges and their surrounding communities – many of which are quite remote – have a vested and mutual interest in the economic acquisition of high-bandwidth network services. As discussed below, municipal participation in the telecommunications market holds great potential for not only meeting the needs of the higher education community, but for speeding the deployment of advanced networking services to the broader American population.

SUMMARY OF THE ARGUMENT

At issue in this case is whether the Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56, includes municipalities in the term 'any' in Section 253(a) which states: "No State or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service." 47 U.S.C. § 253(a). Restricting the term "any entity," contrary to Congressional intent, will in effect prevent municipal broadband development initiatives, such as fiber-to-the-home, that would otherwise provide advanced communications capabilities at affordable prices to higher education institutions *and* the communities they serve.

The overriding purpose of the Telecommunications Act of 1996 is to speed the deployment of advanced

telecommunications capability to all Americans. We believe Congress' laudable objective can in some circumstances be met by municipal provision of telecommunications services, and therefore that § 253(a)'s expansive language should be interpreted to include municipalities. In the specific context of the relationship between municipal networks and the higher education community, we believe the goals of the Telecommunications Act, and the needs of higher education, are supported by such an interpretation for these reasons:

1. Partnerships between higher education and local governments are creating opportunities for communities to obtain advanced telecommunications services.

2. Local government networks can help colleges and universities meet their technical requirements and financial constraints as consumers of telecommunications services.

ARGUMENT

1. Partnerships between higher education and local governments are creating opportunities for communities to obtain advanced telecommunications services.

The cooperative efforts of higher education institutions and local governments to plan, build, finance, and deploy advanced telecommunications networks are one way that the Telecommunications Act's key objective – bringing advanced telecommunications services to all areas – is being met. Especially where private companies have failed to meet local needs, local governments and higher education working together have pioneered efforts to solve the economic development and advanced networking

needs of underserved localities, creating significant competitive advantages for communities that may otherwise lag behind on the technology adoption curve.

One example is the "eCorridors" project,[2] a collaboration between Virginia Polytechnic Institute and State University (Virginia Tech) and interested communities in rural Virginia. Focused on a long-term vision of facilitating the development of next generation network infrastructure and services, the eCorridor project seeks to link the predominantly rural areas along U.S. Route 58 in Virginia with the high-tech and advanced network services found in the more developed, urban portions of the state. The "eCorridors" of Virginia Tech's program are electronic Internet routes that, when fully completed, will resemble a grid, or mesh, of network connectivity into and out of every community throughout the Commonwealth of Virginia. The eCorridors project is specifically designed to enable these generally-small communities to leapfrog existing network technologies, and to provide access to advanced networks that promise to greatly increase economic development and education opportunities for citizens of towns that might otherwise be left behind.

Virginia Tech's work on how to transfer advanced network technology for economic development is one of many such projects with similar goals. Carnegie Mellon University's Center for Appalachian Network Access has helped set up a wireless broadband network in Glenville, West Virginia (pop. 2,000), and plans another in rural

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[2] *See generally* http://www.ecorridors.vt.edu.

western Pennsylvania.[3] Similarly, in the rural Southwest, Texas Tech has contracted to provide wireless Internet access in a network extending from Texas into New Mexico.[4] The University of California, San Diego's HPWREN project "is working toward delivering high-speed Internet connectivity to several remote communities in east San Diego."[5]

A second way that localities and institutions of higher learning work together to further the goals of the Telecommunications Act is by pooling their resources for joint network projects, serving both the institutions and their surrounding areas. Acting in partnership with regional and municipal non-profit and governmental entities, higher education institutions can serve as "anchor tenants" and co-investors for local and regional network development. One example of a university acting as anchor for a locality's network is the relationship between OneCleveland and Case Western Reserve University.[6] The City of Cleveland, Cleveland State University, the Regional Transit Authority and the Cleveland Municipal School District are among the partners of this initiative,

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[3] Associated Press, *Researchers Work to Improve Internet Access in Rural Towns*, reprinted in USA Today, Sept. 12, 2003, *at* http://www.usatoday.com/tech/news/techpolicy/2003-09-12-digital-divide_x.htm.

[4] Press Release, Texas Tech University, Texas Tech University Signs Agreement to Build Network to Improve Internet Access to Rural Areas (July 2, 2003), *at* http://www.wcai.com/pdf/2003/p_amaJuly2.pdf.

[5] *High Performance Wireless Research and Education Network*, *at* http://hpwren.ucsd.edu/education.html (last visited Oct. 21, 2003).

[6] *See* Business Wire, *Case Western Reserve University Adds Six Major Organizations to OneCleveland Network*, Sept. 17, 2003, *at* http://www.cwru.edu/its/strategic/News%20Page.htm.

connecting to Case Western's network and providing unprecedented connectivity speed (more that 1,400 times faster than most broadband connections) that will enable Cleveland's citizens to take advantage of education, health and other advanced applications that require robust bandwidth. As new "entities" like OneCleveland demonstrate, accomplishing the goals of Congress for new services and competition in telecommunications require more than reliance on the traditional shareholder-owner companies.

Similarly, the University of Florida is an anchor tenant of the Gainesville Regional Utilities Network, GRU.net.[7] In Provo, Utah, Brigham Young University is the major customer of Provo City Power, which operates the iProvo municipal fiber-to-the-home network.[8] The University of Georgia joined with county government and local businesses to launch a wireless network in downtown Athens, Georgia.[9] WinstonNet, which grew out of a Wake Forest University networking project, is comprised of a fiber-optic ring that surrounds the city center and provides free high-speed Internet access in recreation centers,

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[7] *See* Gainesville Regional Utilities, 2002 Annual Report 22 (2002) *at* http://www.gru.com/Pdf/AnnualReport2002/AnnualReportFULL_2002.pdf.

[8] *See generally iProvo: History of the Project, at* http://www.iprovo.net/history.php (last visited Oct. 22, 2003).

[9] Sandeep Junnarkar, *Growth: Cities try to cash in*, CNET news.com, Feb. 3, 2003, *at* http://news.com.com/2009-1033-982322.html?tag=cd_mh; *The WAGz Story: How the Wireless Athens Georgia Zone came to be, at* http://www.nmi.uga.edu/research/wagzstory.asp (last visited Oct. 21, 2003).

libraries, schools and a homeless shelter, as well as area businesses.[10]

2. Local government networks can help colleges and universities meet their technical requirements and financial constraints as consumers of telecommunications services.

Institutions of higher learning create huge demand for bandwidth. Many colleges and universities are also looking for ways to cut costs. In some places, local government networks are helping the college communities achieve both these goals, providing the symmetrical, fiber-optic connections that modern applications require, while accommodating the financial limitations of public and private colleges and schools.

The preeminent stature of the United States in fundamental areas of research and innovation is challenged by increased global competition. The incessant, dizzying, upward spiral of computational and data transmission requirements is driving the need to find new ways for improving network capability faster and providing it at lower cost. Increasingly, scientists rely on distributed processing power and storage facilities, multiple computers tied together using optical communications "grids" to create

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[10] Barnaby J. Feder, *Information On-Ramp Crosses a Digital Divide*, Tuscaloosa News, July 8, 2003, http://www.tuscaloosanews.com/apps/pbcs.dll/artikkel?SearchID=73151013489539&Avis=TL&Dato=20030708&Kategori=ZNYT05&Lopenr=307080362&Ref=AR.

flexible, scalable, powerful, low cost computational infrastructure.[11] Today, access to this new optical infrastructure is a key advantage for a relatively few research institutions. Soon, such access will be fundamental to competitiveness and relevance in all areas of scientific research including biotechnology, atmospheric research, nanotechnology, oceanography, space, and defense.[12]

In rural areas in particular, and other places where the private sector is unlikely to provide advanced services in the near future, scientific researchers must have access to advanced network capability if they hope to conduct research at a pace and of a level comparable to their colleagues in urban environments. In addition, researchers and students who wish to access the institution's resources from their homes must have a robust broadband connection. The National Science Foundation recently awarded the Pittsburgh Supercomputing Center and seven other academic institutions funding to wire 100 households with 100 megabit per second (Mbps) Internet connections, with

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[11] As an example of this kind of computing, Virginia Tech recently announced that it would be building a Supercomputer by connecting 1,100 Apple computers. *See Detailed Notes from the Virginia Tech Supercomputer Presentation* (Sept. 5, 2003), *at* http://www.chaosmint.com/mac/vt-supercomputer.

[12] Applications driving such requirements range from high-energy physics to the development of new exotic materials to climate simulation to bioinformatics to a whole host of monitoring, sensing, search, and retrieval applications critical to our nation's security. Any research institution in the U.S. without access to national optical research network infrastructure, including high capacity local and intrastate infrastructure, will be severely disadvantaged for attracting research in any area related to or dependent upon computation, visualization, or digital collaboration.

the ultimate goal of upgrading millions of households within the next few years.[13] These connections will provide much-needed high-speed access to centralized scientific resources, such as digital libraries and the Visible Human database.

The high cost of telecommunications to be born by higher education and other consumers is often a function of their remoteness. The existing national fiber optic network infrastructure is comprised of relatively few nodes located primarily in major, "tier one" cities interconnected by high capacity, long haul fiber optic cables. This inter-city fiber passes through a relatively small proportion of the geographic area of the country. Access to the network is limited, even within the communities through which it passes. Much like the air travel system, this national infrastructure can be accessed only at the major nodes it interconnects.

Fundamental shifts in the information technology industry (increased competition, lower margins for traditional services, and ever-increasing technology change) have caused the traditional providers to increase their focus on shorter term, high-margin opportunities. The combination of varied and complex demands and tight budgets, however, make dealing with the higher education community expensive and inconvenient for vendors. As a result, with the exception of typical consumer-related services such as cable and telephone service for students

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[13] Pittsburgh Supercomputer Center, *NSF Awards $45 Million to Pittsburgh Supercomputer Center for 'Terascale' Computing* (Aug. 3, 2000), *at* http://www.psc.edu/publicinfo/news/2000/terascale-08-03-00.html.

in dormitories and apartment buildings, the major broadband providers have little interest in serving the higher education market. By contrast, the public service mission of municipal entities has led them to provide telecommunications services for education purposes at affordable prices.

Higher education's focus on research and development lies at the heart of the problem of cost. Higher education requires leading-edge telecommunications services, but almost invariably lacks the means to pay market prices to private providers for the those services. Public higher education institutions' sales cycles can be significantly longer than in the private sector, creating a disincentive for sales teams that are typically motivated by measurement systems and compensation plans targeted to short term sales goals. Higher education transactions typically contain unique requirements that may or may not be available in legacy systems or in the skill sets of large, established telecommunications industry personnel.

A significant opportunity to alleviate this problem lies in higher education institutions' potential ability to work closely with a local governmental entity that shares a public service interest in meeting both the community's education and its economic development goals. New entrants into various branches of the telecommunications industry will be more likely if municipalities and early adopters (such as colleges and universities) are allowed to bear the sunk costs associated with the initial provision of advanced network facilities. New telecom entrants could (for an appropriate charge) simply offer services over the municipally-owned infrastructure, much like new airlines contract for terminal space at the municipal airport.

There is no uniform pattern as to how municipalities fund, own and manage their communications networks, or whether their focus is on the home or business. Municipalities that choose to do so often enter into partnerships with private telecommunication providers, which build the network in exchange for the municipality facilitating access to the customer base. Differing approaches aside, many of these initiatives spring up from the same goals: providing a choice in telecommunication services for their citizens, and encouraging business development in their regions.

Where the private sector may determine that costs are too high and return on investment is too low, a municipal government may invest in infrastructure at cost-of-service rates for public service and education goals because they know that such investments are critical to future competitiveness and economic well-being. One example is the Hometown Utilicom project[14] in Kutztown, Pennsylvania, the home of the Kutztown University of Pennsylvania (with an enrollment of 7,000 full-time students). The Borough of Kutztown (pop. 4,500) elected to deploy an all-optical network to provide homes, businesses, and off-campus university housing with state-of-the-art voice, video and data services. This community-owned fiber-optic network has the capacity to deliver high-speed data service up to 100 Mbps to the end user, helping attract new businesses to the area while offering customers a competitive choice for services, and at the same time

[14] *See generally* http://www.hometownutilicom.org/.

provides an alternative revenue source that can be reinvested into Kutztown.

In Denver, the Denver Institutional Area Network Environment (DIANE) consists of 700 miles of fiber optic cable connecting nearly 100 municipal locations and the area higher education community, including the Denver Community College, Metropolitan State and University of Colorado at Denver. DIANE's location near a national exchange point known as the Front Range Gigapop (located on the University of Colorado at Denver campus) enables the city to connect to the State of Colorado's Higher Education Internet Service Access Cooperative and the state's Multi-Use Network for Telecommunications, "increasing the city's access bandwidth capability into the global Internet at substantially reduced costs."[15]

In Muskegon County, Michigan, as part of the Link-Michigan project, the County is in the process of expanding its fiber optic infrastructure to connect more than 80 county buildings, including area schools and colleges. "The savings, which will be seen from aggregation of services, will pay for a substantial portion of the fiber infrastructure. [The network] also provides a platform to pursue new connectivity services, facilitate on-line learning and encourage collaboration among other public institutions."[16] In Eugene, Oregon, the Eugene Water and Electric Board (EWEB) joined with other area public entities in 2001 to

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[15] Dean Smits & Chip White, *The City of Denver Deploys its Broadband Network*, NATOA J. of Mun. Telecomm. Pol'y, Fall, 2003, at 9.

[16] *Id.*, at 32.

form a Public Agency Network (PAN), with EWEB serving as executive authority.[17] The University of Oregon, Lane Community College, and area school districts share an infrastructure consisting of a 70-mile fiber optic ring serving EWEB's utility, as well as local government and education needs.[18]

Local and regional network projects benefit colleges and universities as consumers of telecommunications. The availability of advanced telecommunications is essential for all colleges and universities. Because public networks are, in some places, the only option available to meet the needs of institutions of higher learning, recognition of local governments as "entities" that can provide telecommunications furthers the goals of the Telecommunications Act.

CONCLUSION

EDUCAUSE asks this Court to affirm the decision of the court of appeals.

Respectfully submitted,

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[17] *See* Joyce Winslow, *Local Fiber Initiatives: What's in Store for the Metro Area?*, *at* http://cc.uoregon.edu/cnews/summer2001/fiber.html (last visited Oct. 22, 2003).

[18] *See id.*